11-12 State Results

Mechanical Drafting and Design

27 Participants
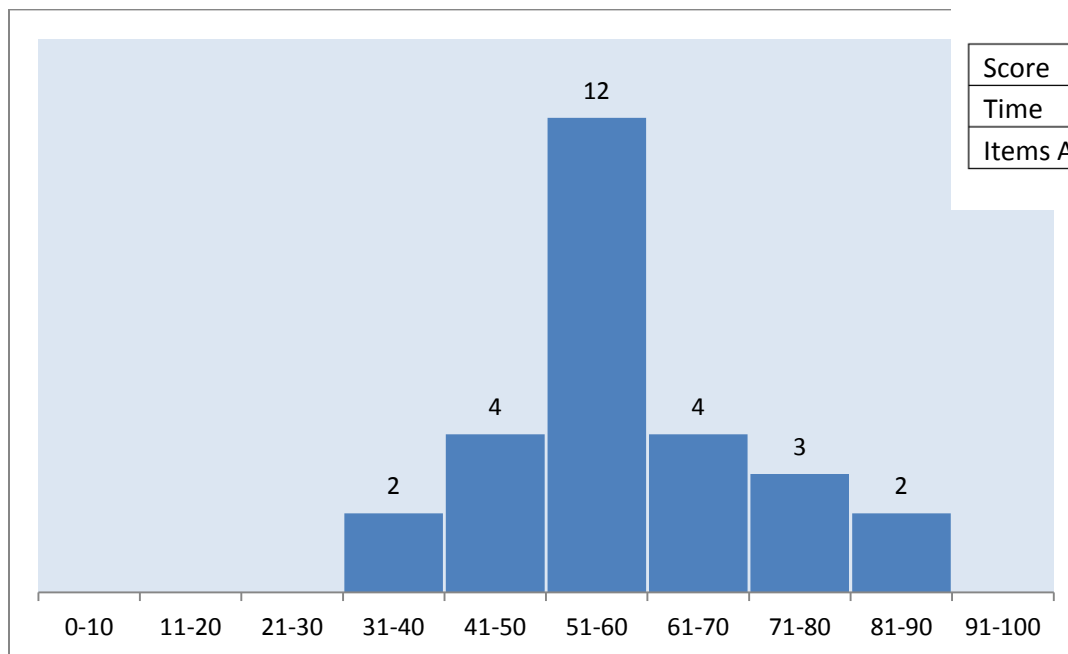
	Min	Max	Mean
Score	31	85	58.26
Time	0:15:23	0:58:36	00:34:30
Items Answered	99	100	99.93

Average Score: 58
Cut Score: 60
Pass percentage: 37%

Bar chart (histogram) values by score range:
- 0-10: 0
- 11-20: 0
- 21-30: 0
- 31-40: 2
- 41-50: 4
- 51-60: 12
- 61-70: 4
- 71-80: 3
- 81-90: 2
- 91-100: 0

Nevada Department of Education
Office of Career, Technical and Adult Education

Content Standards, Performance Standards, Indicators	NV State Averages
Assessment: Mechanical Drafting and Design **Number tested:27**	
1) CONTENT STANDARD 1.0 : APPLY FUNDAMENTAL DRAFTING SKILLS	60.55%
1) Performance Standard 1.1 : Create Geometric Constructions	75.66%
1) 1.1.1 Define geometric terms and recognize various geometric shapes by name	87.04%
2) 1.1.2 Use lines, circles and arcs to construct regular and irregular geometric shapes	77.78%
3) 1.1.3 Construct angles, to include acute, obtuse, and right angles	88.89%
5) 1.1.5 Construct tangent, concentric and perpendicular geometric relationships	74.07%
6) 1.1.6 Calculate area, perimeter, and volume of geometric shapes to include circle, square, rectangle and triangle	57.41%
2) Performance Standard 1.2 : Demonstrate Measuring And Scaling Techniques	71.60%
2) 1.2.2 Determine appropriate engineering and metric scales	51.85%
3) 1.2.3 Measure and calculate object size, area and volume	75.93%
4) 1.2.4 Construct drawings utilizing metric and customary (SAE, Imperial) measurement systems	88.89%
6) 1.2.6 Determine and apply the equivalence between fractions and decimals	88.89%
7) 1.2.7 Convert between customary (SAE, Imperial) and metric systems	48.15%
3) Performance Standard 1.3 : Demonstrate Conventional Drafting Practices	64.20%
2) 1.3.2 Complete title blocks	66.67%
3) 1.3.3 Utilize appropriate drawing composition and layout	44.44%
4) 1.3.4 Identify and utilize industry standard object properties (i.e., line weight, line type)	74.07%
6) 1.3.6 Apply symbols to industry standards (i.e., ASME, ANSI)	66.67%
4) Performance Standard 1.4 : Create Multi-View Drawings Using Orthographic Projection	52.14%
1) 1.4.1 Determine the principle view of an object	66.67%
2) 1.4.2 Project from an existing view to create additional views	81.48%
3) 1.4.3 Identify, create and arrange the six standard views (using properties of similarities of right angles)	62.96%
4) 1.4.4 Identify, create and arrange sectional views	31.85%
5) 1.4.5 Identify, create and arrange primary auxiliary views	51.85%
6) 1.4.6 Apply appropriate measurement units	77.78%
5) Performance Standard 1.5 : Apply Dimensions And Annotations	61.73%
2) 1.5.2 Arrange dimensions and annotations using appropriate standards (i.e. ANSI, ISO)	72.84%
3) 1.5.3 Use various dimensioning styles (i.e. aligned, unidirectional, polar, ordinate, datum)	62.96%
5) 1.5.5 Identify and transcribe tolerancing dimensioning	44.44%
6) Performance Standard 1.6 : Create Pictorial Drawings.	37.04%
2) 1.6.2 Create isometric drawings	37.04%
7) Performance Standard 1.7 : Demonstrate Sketching Techniques	43.52%
3) 1.7.3 Create rough, refined and presentation sketches	70.37%
5) 1.7.5 Produce drawings from sketches	29.63%
7) 1.7.7 Utilize the alphabet of lines (i.e. styles and weights)	37.04%
2) CONTENT STANDARD 2.0 : APPLY FUNDAMENTAL CADD SKILLS	60.61%
1) Performance Standard 2.1 : Utilize Basic Computer And IT Skills	62.35%
1) 2.1.1 Use computer hardware and input/output devices to solve design drafting problems	85.19%
5) 2.1.5 Access and use a network to transfer files	55.56%
6) 2.1.6 Demonstrate the use of various storage media	44.44%
8) 2.1.8 Evaluate electronic media to acquire information to complete drafting problems (i.e. internet, books, power point)	48.15%
2) Performance Standard 2.2 : Set Up A Drawing Environment	59.26%
1) 2.2.1 Select appropriate existing title blocks	64.81%
2) 2.2.2 Set drafting settings (i.e. grid, snap, and modes)	29.63%
3) 2.2.3 Determine and apply scaling factors	72.22%
4) 2.2.4 Assign line weights, line types and colors	33.33%
5) 2.2.5 Utilize template files	62.96%
6) 2.2.6 Utilize sheets/layouts for plotting/printing	70.37%
7) 2.2.7 Scale sheets/layout views for plotting/printing	61.11%
3) Performance Standard 2.3 : Utilize The Cartesian Coordinate System To Create Geometry	49.63%
1) 2.3.1 Describe and utilize the Cartesian Coordinate System to create geometry (x, y, z)	43.21%
2) 2.3.2 Calculate input coordinates	59.26%
4) Performance Standard 2.4 : Create And Modify Geometry Utilizing Cadd Commands	69.14%
1) 2.4.1 Utilize multiple entry methods to invoke CAD commands (i.e., hot keys, icons and menus)	66.67%
2) 2.4.2 Utilize geometric relationships to ensure accuracy (i.e., endpoint, midpoint and center)	81.48%
3) 2.4.3 Create and modify objects using CAD commands	68.52%
5) 2.4.5 Access and integrate help resources to solve problems	48.15%
5) Performance Standard 2.5 : Create And Modify Annotations	62.96%
5) 2.5.5 Use industry standard symbols to annotate drawings	59.26%
7) 2.5.7 Import/export data from other programs	68.52%

Assessment: Mechanical Drafting and Design Number tested:27 Content Standards, Performance Standards, Indicators	NV State Averages
6) Performance Standard 2.6 : Utilize Basic Output Methods	55.56%
4) 2.6.4 Plot drawings to various output media (i.e. paper or electronic)	55.56%
3) CONTENT STANDARD 3.0 : DEMONSTRATE ADVANCED CADD SKILLS AND TECHNIQUES	52.22%
1) Performance Standard 3.1 : Utilize Templates, Symbols, And Libraries	44.44%
1) 3.1.1 Describe the use of symbols	44.44%
2) Performance Standard 3.2 : Develop And Display Three-Dimensional Models	46.30%
5) 3.2.5 Edit the shape and configuration of solid models	11.11%
10) 3.2.10 Create working drawings from three-dimensional models	81.48%
3) Performance Standard 3.3 : Utilize Advanced Output Methods	55.03%
3) 3.3.3 Create and apply industry standard title blocks	88.89%
4) 3.3.4 Reference external files	53.09%
5) 3.3.5 Transmit files electronically	42.59%
6) 3.3.6 Create multi-view layouts from solid models	51.85%
4) CONTENT STANDARD 4.0 : APPLY MECHANICAL DRAFTING AND DESIGN	53.70%
1) Performance Standard 4.1 : Apply Drafting Concepts Related To Basic Manufacturing Processes	54.25%
1) 4.1.1 Describe the basic design process (Identify problem, brainstorm solutions, prototype, manufacture)	25.93%
2) 4.1.2 Describe standard machine processes	33.33%
5) 4.1.5 Identify basic parts of a surface texture symbol	68.52%
7) 4.1.7 Interpret manufacturing-related drawings	48.15%
9) 4.1.9 Create scaled working drawings with dimensions, tolerances, and other specifications for basic machine tool processes	70.37%
11) 4.1.11 Create working drawings that include dimensions, machine allowances and other specifications for foundry processes	46.91%
12) 4.1.12 Create thread and fastener representations	33.33%
13) 4.1.13 Create assembly drawings with a bill of materials table	92.59%
2) Performance Standard 4.2 : Apply Geometric Dimensioning And Tolerancing (Gdt) Standards	44.44%
1) 4.2.1 Identify symbols used in GDT (i.e. basic dimensions, datums, and feature control frames)	44.44%